

REMARKS

This Preliminary Amendment accompanies a Request for Continued Examination. The Applicants thank the Examiner for the thorough examination given the application. No new matter is added to the application by this Amendment.

Status of the Claims

Claims 6-9, 14-23, 25 and 26 are pending in the application. Claims 4, 5, 10-13, 18, 21, 24 and 27-30 are canceled by this Amendment.

Rejection Under 35 U.S.C. 102(b) Over Soma

As set forth at page 4 of the Supplemental Examiner's Answer, claims 10, 11 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Soma (U.S. Patent No. 5,411,767). Applicants traverse.

Claims 10, 11 and 27 are canceled by this Amendment, thereby rendering this rejection moot. Reconsideration and withdrawal thereof are respectfully requested.

Rejection Under 35 U.S.C. 103(a) Over JP '913 in View of Soma

As set forth at page 5 of the Supplemental Examiner's Answer, claims 4-30 are rejected under 35 U.S.C. 103(a) as being obvious over JP '913 (JP 8-50913) in view of Soma. Applicants maintain traversal and hereby incorporate all previously submitted arguments.

Distinctions of the present invention over JP '913 and Soma have been placed before the Examiner during both the prosecution of the present application and appeal. For brevity, these distinctions will not be repeated here. However, set forth below are grounds that clarify the patentability of the present invention over JP '913 and Soma.

At page 6, lines 10-21 of the Supplemental Examiner's Answer, the Examiner states that claims 6 and 14 of the present application provide for a $\text{Sr}_{0.8}\text{La}_{0.2}\text{TiO}_3$ compound. This compound is allegedly obvious over the disclosure of the cited Soma reference, since a $\text{Sr}_{0.09}\text{La}_{0.2}\text{TiO}_3$ compound is suggested by the description in column 4, line 39 to column 5, line 12 of the Soma reference. Moreover, the Examiner alleges that claims 8 and 16 of the present application provide for a $\text{Mg}_{0.8}\text{La}_{0.2}\text{TiO}_3$ compound, but alleges that this compound is obvious over the disclosure of the Soma reference, because a $\text{Mg}_{0.8}\text{La}_{0.2}\text{TiO}_3$ compound is suggested by the description in column 4, line 39 to column 5, line 12 of the Soma reference. Applicants disagree.

$\text{Sr}_{0.09}\text{La}_{0.2}\text{TiO}_3$ and $\text{Mg}_{0.8}\text{La}_{0.2}\text{TiO}_3$ suggested by the description of the Soma reference are compounds which cannot actually exist. The reasons will be explained below.

$\text{Sr}_{0.8}\text{La}_{0.2}\text{TiO}_3$ defined in claims 6 and 14 of the present application has the charge balance $2 \times 0.8 + 3 \times 0.2 + 4 \times 1 + (-2) \times 3 = + 0.2$, because the valences of its respective elements are $\text{Sr} = +2$, $\text{La} = +3$, $\text{Ti} = +4$ and $\text{O} = -2$. Thus, this is a compound capable of maintaining a crystal structure sufficiently. Similarly, $\text{Mg}_{0.8}\text{La}_{0.2}\text{TiO}_3$ defined in Claims 8 and 16 of the present application has the charge balance $2 \times 0.8 + 3 \times 0.2 +$

$4 \times 1 + (-2) \times 3 = +0.2$, because the valences of its respective elements are $\text{Mg} = +2$, $\text{La} = +3$, $\text{Ti} = +4$ and $\text{O} = -2$. Thus, this is also a compound capable of maintaining a crystal structure sufficiently.

On the other hand, $\text{Sr}_{0.09}\text{La}_{0.2}\text{TiO}_3$, quoted by the Examiner as being suggested from the Soma reference, has the charge balance of $2 \times 0.09 + 3 \times 0.2 + 4 \times 1 + (-2) \times 3 = -1.22$. Thus, it is a compound of an unintelligible composition which cannot constitute a crystal structure. Similarly, $\text{Mg}_{0.8}\text{La}_{0.2}\text{TiO}_3$, quoted by the Examiner as being suggested from the Soma reference, has the charge balance of $2 \times 0.8 + 3 \times 0.2 + 4 \times 0.2 + (-2) \times 3 = -3$. Thus, it is a compound of an unintelligible composition which cannot constitute a crystal structure.

That is, the general formula described in column 4, lines 39-45 of the Soma reference has $0 \leq x \leq 0.3$. Thus, La is necessarily the main component of the parenthesized constituents (the main component of the left-hand part of the general formula). If B is Ti, the basic composition will be LaTiO_3 , which has the charge balance $3 \times 1 + 4 \times 1 + (-2) \times 3 = +1$ and is completely inconsistent with chemical theory. This is a chemical formula including an infeasible composition which, if the main component of the right-hand part of the formula is Ti, is unable to constitute a crystal structure, and in other words, in which the main component of the right-hand part of the formula essentially cannot be rendered Ti.

Therefore, the general formula described in Soma encompasses a contradictory composition having a charge balance totally inconsistent with chemical theory, and is

thus incapable of constituting a crystal structure. As a result, independent claims 6, 8, 14 and 16 of the present invention cannot be found *prima facie* obvious over the teachings of Soma. That is, when the teachings of JP '913 and Soma are viewed as a whole, there is no motivation or even possibility of arriving at the present invention. Thus, this rejection is improper and should be withdrawn. Claims depending upon independent claims 6, 8, 14 and 16 are patentable for at least the above reasons.

Conclusion


The Examiner's rejections have been overcome, obviated or rendered moot. No issues remain. The Examiner is accordingly respectfully requested to place the application in condition for allowance and to issue a Notice of Allowability.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

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Respectfully submitted,

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